論　　文

“My book is not a science – it is a dream”: Contestation, perception, and the status of the true in John Banville’s *Doctor Copernicus*.

科学ではなく夢である：ジョン・バンヴィル著の「コペルニクス博士」における論争，認識，真理

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Abstract：Modern empirical science is rarely dramatised as being peculiarly sensitive to the limitations of its own methods, but John Banville’s *Doctor Copernicus* presents us with a sustained interrogation of precisely such self-doubt. In this research paper I argue that the novel discloses the great astronomer grappling with the value of his own scientific project when challenged by alternative models of inquiry. Tracking Copernicus’s engagement with the contestations of (respectively) scholarly orthodoxy, radical empiricism, and mysticism, I submit that the challenge to the scientific personality framed here is as much existential as epistemological. What Banville is exploring is ultimately the interpenetration of fiction and science.

Keywords：science, truth, instrumentalism, realism, nominalism

近代経験科学は自らの方法論の限界に対して格別に敏感であることをほとんど示さない。しかし，ジョン・バンヴィル著の「コペルニクス博士」はそれに対して的確な自問自答を促す。本論文ではバンヴィルの小説が新たな側面から問いかけられていたときに対して，科学的価値に取り組んできた天文学者であったことを明らかにするものであることを主張する。コペルニクスの学説，急進的経験主義，神秘主義の論争を紐解きながら，本論文で科学的パーソナリティは現代の神式論でも充分存在しうることを示す。つまり，バンヴィルが考察してきたものは究極的にはフィクションと科学の解釈である。

In *Doctor Copernicus* John Banville confronts his chief protagonist with a variety of challenges to the way he organizes responses to the world. These challenges arrive in the form of three models of scientific logic and behaviour. The first model is that of *instrumentalism*. The key principle adopted by the instrumentalist camp is that the theoretical terms it deploys in developing scientific hypotheses need not correspond to anything which exists, but rather they serve as “convenient fictions” to save the appearances which confront the investigator.[1] A corollary of this principle is that scientific theories may cohabit explanation space, as it were, because it is never going to be the case that one theory is absolutely confirmed (in answer to a unitary cause) and another falsified for good; every theoretical claim, to the instrumentalist, is provisional. Copernicus’ *magister* Brudziewski, in speaking to his pupil, endorses the position (thus):

> “Listen to me: you are confusing astronomy with philosophy, or rather that which is called philosophy today, by that Dutchman, and the Italians and their like. You are asking our science to perform tasks which it is incapable of performing. Astronomy does not describe the universe as it is, but only as we observe it. That theory is correct, therefore, which accounts for our observations. Ptolemy’s theory is perfectly, almost perfectly valid insofar as pure astronomy is concerned, *because it saves the phenomena*. This is all that is asked of it and all that can

be asked, in reason. It does not discern your principal thing, for that is not to be discerned, and the astronomer who claims otherwise will be hissed off the stage!"[2]

The philosophical engine behind the instrumentalist's claims is that there is no such thing as the universe as it is. The cash value of saying that there is no "principal thing .. to be discerned" is that *the causes* of phenomena are off limits to investigation. And it is this feature of the claim that generates the emotional charge of this episode, for clearly Brudziewski has gone beyond a truth-neutral position where rival theories are to be weighed in terms of how *they* save the phenomenon. He begins his exposition by attacking one school of philosophy for being misguided and ends by predicting the repudiation of any "astronomer who claims otherwise" than the instrumentalist case. The second principle I have given – rival theories are permitted, welcomed even – seems be violated no end. And it is violated. And it is important to see why this is the case and how strong the emotional response to a threatened change in theoretical affiliation may be.

Why can Brudziewski not accept a rival theory which posits 'principal things' (ultimate causes). The answer is plain enough. If there is a theory which hypothesizes *one* cause for the phenomena which it investigates, then it is more than likely that this theory will hypothesize *one* explanation by which to account for that cause. Logically, if there is a theory which hypothesizes one explanation, then there is no room for another theory (explanation). A theory whose goal is to discern ultimate causes is, therefore, incompatible with the instrumentalist account, and vice versa. There is (at least) one theory alongside which Brudziewski's model cannot operate, and that is the theory which I shall call *empirical realism*, the theory which posits the existence of discernible, ultimate causes behind observable phenomena.

The passage I have examined above is a good example of Banville dramatizing how his protagonists reinforce, justify and finesse their commitments to a scientific model. That the rhetorical justification here terminates in the threat of vocal means – "hissed off the stage"[3] – to marginalize individuals who hold dissenting views is far from atypical. Subjects are portrayed investing time, energy and rhetoric in attempts to position themselves in relation to each other's theoretical affiliations. In the case of Copernicus the portrayal is that of an individual acutely sensitive to how his intellectual development stands with respect to the demands of both orthodoxy and dissent. Furthermore, in his case, there is the representation of how a subject tracks his own confidence in terms of an intellectual stance adopted, of how completely, or incompletely, he devotes himself to that stance, and of how that confidence and devotion relate to perceptions of achievement and psychological equilibrium.

To illustrate this point I wish to jump forward (from the Brudziewski episode) to a scene where Copernicus lies on his deathbed. Leading up to this moment the reader has been shown Copernicus experiencing visions of the divine, which visions have promised him an ultimate datum, something which might satisfy his lifelong craving for an immediate, all-encompassing given:

> The god spoke:
> Here now is that which you sought, that thing which is itself and no other. Do you acknowledge it?
> No, no, it was not so! There was only darkness and disorder here, and a great clamour of countless voice crying out in laughter and pain and execration; he would know nothing of this vileness and chaos.
> Let me die!
> But the god answered him:
> Not yet.[4]

But just at this point Copernicus is woken and is prepared (by his nurse) to receive a visit from Canon Osiander, a Lutheran cleric who, as it turns out, has an editorial interest in the final release of Copernicus' magnum opus *De revolutionibus orbium mundi*. Copernicus, physically frail and psychologically exhausted, is at Osiander's mercy as reader, theorist and executee. On the face of it the passage seems to

represent triumph for orthodoxy in the ideological battle (instrumentalist versus empirical realist) for the redirecting of Copernicus' scientific capital:

> Osiander was poking about inside the capacious satchel slung at his side, and now he brought out a handsome leather-bound volume tooled in gold on the spine. The Canon craned for a closer look at it, but Osiander, the dreadful fellow, seemed to have forgotten that he was in the presence of the author, who was still living, despite appearances, and instead of bringing it at once to the couch he took the book into the windowlight, and, dampening a thumb, flipped roughly through the pages with the careless disregard for one for whom all books other than the Bible are fundamentally worthless.
>
> "I have altered the title," he said absently, "as I may have informed you was my intention, substituting the word *coelestium* for *mundi*, as it seemed to me safer to speak of the *heavens*, thereby displaying distance and detachment, rather than of the *world*, an altogether more immediate term."
>
> No, my friend, you did not mention that, as I recall; but it is no matter now.
>
> "Also, of course, I have attached a preface, as we agreed. It was a wise move, I believe. As I have said to you in my various letters, the Aristotelians and theologians will easily be placated if they are told that several hypotheses can be used to explain the same apparent motions, and that the present hypotheses are not proposed because they are in reality true, but because they are the most convenient to calculate the apparent composite motions." He lifted his bland face dreamily to the window, with a smug little smile of admiration at the precision and style of his delivery. Just thus did he pose, the Canon knew, when lecturing his slack-jawed classes at Nuremberg. "For my part," the Lutheran went on, "I have always felt about hypotheses that they are not articles of faith, but bases of computation, so that even if they are false it does not matter, provided that they save the phenomena ... And in light of this belief have I composed the preface."[5]

Osiander argues the instrumentalist case in order to take the sting out of whatever radical hypotheses might be contained therein - say, the earth's being displaced from the centre of the universe. As it stands such a thesis would be unacceptable to the academy and the church. But displace the term *earth* from the centre of the model and accept that more than one model may suffice to account for what we see, and suddenly there's no threat to the status quo at all. As such, Osiander's is clearly an attempt to scuttle Copernicus' empirical realist project. But the attempt is subtly dramatized.

There is plenty of evidence from the narrative that Osiander is being caricatured here – in some instances ("the dreadful fellow") he is directly impugned – with tropes such as the next dedicated to characterizing him as superficial, lazy and arrogant: *careless disregard, bland face, smug little smile, his slack-jawed classes*. Given this account, the reader might come to associate the theory espoused with the laziness and flabbiness of the practitioner (Osiander himself). But the narrative does not have *Copernicus* react in quite this way. He does recognize Osiander for what he is – "a born preacher .. eager to descant [his work]".[6] With respect to the substance of the instrumentalist *argument*, however, he is by no means confident of the value of opposing it. As Osiander ignores him, talks and peripatizes over him, past him, Copernicus runs through the options, at first vetting the logical categories available, and then visualizing, or even hallucinating, a response to the challenge:

> The Canon listened in wonder: was it valid, this denial, this spitting-upon of his life's work? Truth or fiction ... ritual ... necessary. He could not concentrate. He was in flames. Andreas Osiander, marching into windowlight and out again, was transformed at each turn into a walking darkness, a cloud of fire, a phantom, and outside too all was strangely changing, and not the sun was light and heat, the world inert, but

rather the world was a nimbus of searing fire and the sun no more than a dead frozen globe dangling in the western sky.[7]

The response extrapolates out from his book being *mis*read by Osiander – his book where the sun is at the centre of what *could be* a radical empirical model – to a world where the sun has been sapped of its energy and utterly marginalized. The author of the book undergoing such hostile interpretations *considers* whether the "spitting-upon" is justified or not, and cannot decide. He is concerned about the status of this work: is it "truth or fiction ... ritual ... [or] necessary". He is concerned as to what is added or lost when the likes of Osiander insult both the axioms and the goals of his science. But the richness of this exchange is such that we do not get Osiander lampooned the better to see Copernicus triumph.

Instead of this we see Copernicus unsure as to whether to be persuaded by the arguments of this ridiculous figure. And we see him tormented by the *certainty* of the worthlessness of his scientific project (with the sun – *his* sun – transmogrified as "a dead frozen globe"). What Banville dramatizes is much less an ideological battle – with Copernicus standing up to the church (and to the Ptolemaic tradition) and going down with all scruples blazing – than it is the situation of a scientist and writer confronting the value of his work. Consistent with this verdict is an exchange where Copernicus protests that his calculations are worthless:

> "Tell me, Osiander," he said, "tell me truly, is it too late to halt publication? For I would halt it."
>
> "Why, Doctor?"
>
> "You have read the book? Then you must know why. It is a failure. I failed in that which I set out to do: to discern truth, the significance of things."
>
> "Truth? I do not understand, Doctor, Your theory is not without its flaws, I agree, but – "
>
> "It is not the mechanics of the theory that interest me." He closed his eyes. O burning, burning! "The project itself, the totality ... Do you understand? A hundred thousand words I used, charts, star tables, formulae, and yet I said nothing ..."[8]

Acknowledging that "the significance of things" cannot be couched in the language of science, Copernicus now wishes to annul the representations of the discernibles to which he still pledges allegiance. The burning in his head owes its birthright less to the stroke he has recently suffered than to the corrosive power of the position which confronts him, the absoluteness of his failure. And Copernicus' double bind has always been that he wanted perception, but without the perceptibles. The audacity of his scientific vision groomed mediatory approaches to induction that exaggerated the gap between the pox-ridden medieval world into which he was thrown and the austere consolation of the language-resistant heavens. And it was here, in the domain of *scientific theories*, that his tolerance and epistemological omnivorousness were so successful, masquerading as iconoclasm. The good doctor could exploit the oyster universe of the Egyptians for its glamour and its homespun charm,[9] and could argue patiently that Thomist approaches to computation were useful in spite of the fact that they dealt with the nonexistent.[10] Where Copernicus *has* been reluctant to express his tolerance is where claims have been made that an appearance testifying to the base corruption of the everyday could possibly fuse with what he intuited to be an expression of the spiritual (the *true*). For an exponent of such a claim the reader need look no further than the volcanic personality of Nicolas' brother, Andreas, a champion of the impure and the vulgar.

As a foil to Copernicus' aloof and reductive spirit Andreas symbolizes the irrational and utopian forces of growth and decay, and he is Banville's boldest instantiation in the novel of the pox motif. Andreas' very public infection goes hand in hand with his denouncing of squeamish approaches to reality which abstract away from the productive frailties of the human. It is Andreas who identifies embarrassment as Copernicus' "stormiest emotion"[11] and he who notes that alongside the grand intentions to transmute instrumentalist projects into robust

explications of the real, the good Doctor remains "panic-stricken ... in the face of the disorder and vulgarity of the commonplace".[12] The cardinal heuristic sin for Andreas is to "isolate the [thing and make] all meaning drai[n] away",[13] but from the point of view of a scientist like Copernicus this holism is symptomatic of a diseased world-view. Why so? Because any emphasis on the interactiveness of things seems to valorize the organic and to place a premium upon the flux. Neither tactic is conscionable to Copernicus who takes the sublime to resonate to the intuitable void. Such is the contagiousness of Andreas' perspective, however, that Copernicus' *scientific* personality finds itself yielding time and again to his brother's hallucinatory force.

Banville regulates the pox motif throughout to trigger representations of Copernicus' gravest fears and most compromising professional burdens. For Nicolas the pox comes to signify the ruckus of a medieval Europe hell-bent on emerging from a state of ignorance. At one point he himself succumbs to its obstreperous charms when, upon marking the heavens for equipoise, his eye alights upon the "Constellation of syphilis".[14] As his fame grows and word of his profound speculations spread he nonetheless finds himself dogged by the reputation and the overwhelming sense of destiny exemplified in his brother. When Andreas arrives at Frauenberg after a stint of debauchery in Italy he notes that the monks there only begin to take him seriously (with respect to the pledges and sanctions he demands of right, being a monk himself) *after* the disease had fully taken hold: "I had to begin visibly to rot before I could win respect".[15] And, of course, this observation slots in neatly with the corresponding plight of Copernicus, the brother best known for the austerity of his academic habits and the enigmatic quality of his social persona. The point is that whereas Andreas rots without, Nicolas corrodes within: his faith has been stripped away to nothing save the liturgical performances which run happily tangent to his atheism; his belief in the value of his scientific work has radically diminished; and he finds his very "physical self ... evaporating".[16] The nihilism Andreas lives and speaks is publicly directed at the hypocrisy and sterility of a society which he ferociously satirizes. The nihilism Copernicus nourishes is one which (inconsistently) fears for the disintegration of self and the epistemological and existential carnage his theses will wreak on the society he is trying to protect from *further* harm. To this extent the tension between the brothers testifies to a clash of didactics. The personality of Nicolas' theory – *his* radical empiricism – is such that it cohabits with instrumentalism whenever it deems fit; in a very real sense it is private and transcendent. Andreas, meanwhile, expects his engagement with the world to destroy him, and he, in being destroyed, to engage and disturb the theoretical sensibilities of his brother.[17] When Andreas' didacticism is fully exposed in the text – exposed by the *ghost* of Andreas visiting his dying brother – what is most striking about it is its full-blown, evangelical constructiveness:

> What shall we call it [to which you, Nicolas, sold your soul]? – science? the quest for truth? transcendent knowledge? Vanity, all vanity, and something more, a kind of cowardice, the cowardice that comes from the refusal to accept that the names are all there is that matter, the cowardice that is true and irredeemable despair. With great courage and great effort you might have succeeded, in the only way that it is possible to succeed, by disposing the commonplace, the names, in a beautiful and orderly pattern that would show, by its very beauty and order, the action in our poor world of the otherworldly truths. But you tried to discard the commonplace truths for the transcendent ideals, and so failed.
>
> I do not understand.
>
> But you do. We say only those things that we have the words to express: it is enough.
>
> No!
>
> It is sufficient. We must be content with that much.[18]

This constructiveness is a trait which seemed to be quite alien to the implacable hostility of the *living* man. Previously, Andreas' trademark witness

culminated in that depicting Creation as divine excretion: "'Our lives, brother, are a little journey through God's guts. We are soon shat. Those hills are not hills but heavenly piles, this earth a mess of consecrated cack, in which we sink at the end'".[19] But now he brings a positive theory to the table. I dub this theory *mystical nominalism* and state that it denotes any program which "dispos[es] the commonplace, the names, in a beautiful and orderly pattern that [will] show, by its very beauty and order, the action in our poor world, of the otherworldly truths".[20]

Andreas' *mystical nominalism* has a curious agenda, but one not without precedent in the novel itself. Copernicus himself has spoken (to his amanuensis, Rheticus) of the importance of recognizing that scientific theories are no more than names: "all [is] merely an exalted naming".[21] But pay attention to that "merely". The choice of language with which to name the universe – be it a mathematical language or a poetic – is shorn of import in terms of any heuristic or causal impact it may have. Andreas is suggesting that a positive programme erects around such a choice, indeed that the choice of language – of the names and how these names are positioned in relation to each other – is critical to the success of the gambit. To examine this approach I want to draw on a non-fictional piece which Banville wrote to articulate the mystical nominalist position. In his discussion of the relationship between scientific and fictional vocabularies, the writer comments as follows: "Science does not need art to supply its metaphors. Art and science are alike in their quest to reveal the world. Rainer Maria Rilke spoke for both the artist and the scientist when he said: ["]Are we, perhaps, *here* just for saying: House, Bridge, Fountain, Gate, Jug, Fruit tree, Window, – possibly: Pillar, Tower? but for *saying*, remember, oh, for such saying as never the things themselves hoped so intensely to be["][22]

In Rilke's proposal the emphasis is not on the beautiful ordering of "the names" but simply on the choice of words and on the utterance of them. The notion appears to be that the right sign, drawn from a class of concrete nouns, will, if uttered in a particular way, serve as ontological exemplar for the corresponding referent, which referent will be drawn from a class of medium-sized, everyday objects. Such a stance goes beyond a Cratylic stance where it is hoped that natural motivation can be discovered, tying thing to name. In this mystical nominalist reading the sign comes first, and names are not *of* things, but things *of* names. Regardless of the proposal's worth, it is important to note that it flies in the face of all empiricist intuitions which place a premium upon direct sense experience of the objects of inquiry. And there is, I want to argue, a sense in which mystic nominalism can be read as a direct inversion of Copernicus' radical empiricism, the theory that endorses single, ultimate causes.

My discussion of radical empiricism highlighted its absolutist character – there were to be no competing explanation*s* for phenomena, no concession to rival accounts of appearance. The position espoused by Andreas and Rilke is equally absolutist, although this time it is the case that it is speech acts which are to do the work of not so much *explaining* the world, as finishing it. To choose the names and to say them is sufficient; once they have been chosen and said there is nothing *to* explain. This is the crux of Andreas' argument. The transcendent ideals Copernicus selected to focus on are, according to Andreas, inaccessible; they can only be *shown* through the selection, display and resonance of the commonplace names. Nonetheless, the ideals are there. Both sides – radical empiricists and mystical nomimalists – agree on that. And this is what separates them from the instrumentalists. For the likes of Osiander and Brudziewski the transcendent ideals can neither be seen, shown nor intuited; properly speaking, they are fictions, objects to which existence can only be predicated under the spell of a category error.

It is important to note that Copernicus is the focal point of these contestations. Banville dramatizes him in large part as the target of various attempts to win him over to a particular intellectual position. Attempts are made to woo him, to abuse him, to outwit him, and to save him. Osiander, for instance, takes advantage of Copernicus' weakness to talk over him and suavely misread his work. Brudziewski

threatens the young Copernicus with opprobrium should he stray from orthodoxy. Andreas uses a carrot-and-stick ploy; he scolds his brother for his intellectual and moral sins and then offers him the only way out of such a cognitively disgraced condition. In these exchanges, Copernicus barely gets a word in edgeways. His performance raises some interesting questions. Is he a subject without intellectual backbone, either unable or unwilling to contest a theoretical/ existential position in dialogue with peers? Or is he a subject oversensitive to the heuristic virtues of the medley of rival philosophical schemes that confront him throughout the novel?

It might seem that Copernicus is dramatized as a man incapable of fully devoting emotional energy to any position. But this is only half the story. Copernicus has an obsessive and emotionally charged attitude to his work (astronomy) which is plain even when he is the most depressed with respect to that work's ever bearing fruit:

> Each day [failure] came a little nearer, and each day he made its coming a little easier, for was not his work – that is his true work, his astronomy – a process of progressive failing? He moved forward doggedly, line by painful line, calculation by defective calculation, watching in mute suspended panic his blundering pen pollute and maim those concepts that, unexpressed, had throbbed with limpid purity and beauty. It was barbarism on a grand scale. Mathematical edifices of heart-rending frailty and delicacy were shattered at a stroke. He thought that the working out of his theory would be nothing, mere hackwork: well, that was somewhat true, for there was hacking indeed, bloody butchery. He crouched at his desk by the light of a guttering candle, and suffered: it was a kind of slow internal bleeding ... He dipped his pen in ink. He bled.[23]

On the one hand, this sequence indicates a pathological negativity: that Copernicus has lost his vision; is sick to the stomach with his scientific practice. On the other hand, we may read the bloodthirstiness of the articulation as dramatizing the scientist undergoing hardship and even physical pain in the pursuit of his goals. There is a sense in which the reader engages with Copernicus, crouched at his desk, faced with hermeneutical ruin at each step, and eggs him on. For within the "mute suspended panic" there seems to exist (for Copernicus) a kind of pleasure taken from his *failure*. And what is the nature of this failure? The failure is in expressing the concepts in a way that maims and pulverizes their "heart-rending frailty and delicacy". The suggestion here is that Copernicus is coming to accept the *loss* of his world of crystalline ideas.

I want to focus on this acceptance of loss from the perspective of Rheticus, Copernicus' editor. There is some need to elucidate Rheticus' position before this focus is achieved. The following points are important:

(1) Rheticus has his own agenda when it comes to recording (with an eye to circulating) the works of Copernicus: he openly acknowledges that, while he respects the Doctor's knowledge and achievements greatly, he regards himself as the better astronomer and the one with the superior empirical bent;

(2) Copernicus manipulates Rheticus' ambition shamelessly and with tremendous aplomb in getting him to copy out his (Rheticus') impressions of *De revolutionibus orbium mundi* and distribute them, rather than have the masterpiece itself directly released unto a readership thought unprepared. Rheticus *qua* reader is exploited wholeheartedly – although it might also be said *deservedly* – and we, the readers of *Doctor Copernicus*, become aware of this.

So through the dialectical filter of Rheticus' strengths and weaknesses as narrator (in the *Cantus Mundi* section of the novel: pp. 159–220) we have the opportunity to track Copernicus' responses to the crisis of impasse. I begin with a self-characterization of Rheticus, one designed to publicize his own virtues as theoretician/ practitioner *over against* those of his host. He claims that whereas he has faith in "the genius of Man" and "live[s] in the future", "Copernicus was different, very different. If he believed that Man could redeem himself, he saw in – how shall I say – in *immobility* the only possible means toward that end.

His world moved in circles, endlessly, and each circuit was a repetition exactly of all others, past and future, to the extremities of time: which is no movement at all".[24] Rheticus believes in progress and a change expedited in and through human agency. The notion that immobility can be a *means* to anything is therefore anathema to him. Copernicus' relationship to immobility is more ambivalent. In the case of his exchanges with both Osiander and Andreas' ghost he was confined to his deathbed, largely hostage to his interrogators. Thereafter, he was logically hamstrung between the burning and the publication of his *Commentariolus*. Copernicus is thus no stranger to being caught between positions, unable to move.

The Doctor is consistently dramatized in terms of his hermeneutic position: he, the perceiver, is here, and the world, the perceptibles, are out there. Deduction of the gulf which separates these two domains is frequently disclosed: "The universe of dancing planets was out there, and he was here, and between the two spheres mere words and figures on paper could not mediate".[25] Of course, there is movement possible for the observer who recognizes his position looking across this gulf – calculations and hypotheses can be spun, cognitive narratives can be exercised – but the gulf remains. Copernicus can experience the immobility characterized here in terms of frustration because the radical empiricist within him longs to bridge the gap. He *moves* against – but in the end always *with* – the constraints of this epistemological straitjacket. When Andreas accuses him of "prefer[ring] heroic failure to prosaic success"[26] he alludes to this kind of tenacious struggle to overcome these logical strictures. But Rheticus – who knows *De revolutionibus orbium mundi* inside out – claims that Copernicus sees the value in resisting this struggle, and finds redemption in and with methodological circumduction. This point is revealed in an exchange between Rheticus and Copernicus in which the former undergoes a steep emotional disaffection with his mentor's philosophical outlook.

> ... I wish to record a conversation I had with him which, later, I came to realise was a summation of his attitude to science and the world, the aridity, the barrenness of that attitude. He had been speaking, I remember, of the seven spheres of Hermes Trismegistus through which the soul ascends toward redemption in the eighth sphere of the fixed stars. I grew impatient listening to this rigmarole, and I said something like:
>
> "But your work, *Meister*, is of this world, of the here and now; it speaks to men of what they may know, and not of mysteries that they can only believe in blindly or not at all."
>
> He shook his head impatiently.
>
> "No no no *no*. You imagine that my book is a kind of mirror in which the real world is reflected; but you are mistaken, you must realise that. In order to build such a mirror, I should need to be able to perceive the world whole, in its entirety and in its essence. But our lives are lived in such a tiny, confined space, and in such disorder, that this perception is not possible. There is no contact, none worth mentioning, between the universe and the place in which we live."[27]

The trajectory of Copernicus' thought here exasperates Rheticus on many fronts. To begin, as he does, with Gnostic metaphysics and a movement to redemption is bad enough, fashioning a "rigmarole" inoculating doctrine against empirical discovery. But to interrogate one of the founding metaphors of Renaissance verisimilitude – *the mirror* – and find it wanting, this is plain heresy. According to Copernicus, whatever his book does it does *not* reflect the real world. His argument against this possibility suggests that only if the whole can be seen, can the parts be represented. And the antecedent, if we follow Copernicus, is false – the whole cannot be seen; perception of *this* is ruled out by the feeble character of our faculties and our *isolation*. Copernicus' tone is confident and emphatic – there is no feeling of loss or torment in his exposition. And this is just what disaffects Rheticus the most:

> I was puzzled and upset; this nihilism was inimical to all I held to be true and useful. I said:

"But if what you say is so, then how is it that we are aware of the existence of the universe, the real world? How, without perception, do we *see*?"

"Ach, Rheticus!" It was the first time he had called me by that name. "You do not understand me! You do not understand yourself. You think that to see is to perceive, but listen, listen: *seeing is not perception!* Why will no one realise that? I lift my head and look at the stars, as did the ancients, and I say: what are those lights? Some call them torches borne by angels, others, pinpricks in the shroud of Heaven; others still, scientists such as ourselves, call them stars and planets that make a manner of machine whose workings we strive to comprehend. But you do not understand that, without perception, all these theories are equal in value. Stars or torches, it is all one, all merely an exalted naming; those lights shine on, indifferent to what we call them. My book is not a science – it is a dream. I am not even sure if science is possible."[28]

I want to make it clear what Copernicus is *not* doing in this argument. He is not removing himself to a metaposition from where he can dispense a totalizing judgement. He clearly identifies himself with one camp from among those attempting to articulate responses to the universe – "scientists such as ourselves". His argument is that there is no metaposition: all observers by necessity occupy a position, and deploy a language. And what does this language do? It names. It constructs metaphors, conceiving the heavens for example as a *manner of machine*. With names and metaphors a "striv[ing] to comprehend" can get underway. But all such programs are booby-trapped by the logical character of Copernicus' next claim: the languages of these programs can never broker perceptual relationships with the worlds they describe, or answer to. And without these perceptual relationships all reference is self-reference.

This analysis constitutes a threat to the naming and metaphor-using activity called science, in particular radical empirical readings of that term. Science has to be *about* something and it cannot be about itself. Science has to make a difference to the world it tries to explain. For a scientist like Rheticus – *and* Copernicus – it is not the end of the world to discover that one's explanations fall short of capturing the world perfectly. That is to be expected. The long term goal is for the scientific community to converge on the perfect explanation. It does not have to happen all at once. But where there are no criteria to evaluate whether scientific explanations make a difference or not – as is the case here – then this destroys the whole gambit. *Without perception, all theories are equal in value*. Without perception, scientific explanations can only ever hope to explain themselves. If this conclusion sounds familiar, then this is hardly surprising, for it seems that both the instrumentalists and the mystical nominalists proposed something similar. Let us revisit that point before we close.

Brudziewksi and Osiander held that rival theories were compatible provided they *saved the phenomena*. This was their principle criterion for explanatory success. The question is whether saving the phenomena requires the *perception* Copernicus is ruling out. Osiander conceded that motions may be "apparent" and resisted talk of perception*s* being singularized, arguing against too much "faith" being placed in them and in the hypotheses they accompany.[29] The sensibility which the novel associates with the instrumentalists – suspicious of change, flaccid, rationalist, steeped in knowledge of the ancient texts – is one which might find Copernicus' *seeing is not perception* motto congenial. And what of Andreas and the mystical nominalists? The suggestion here was that by putting the names in a beautiful order the otherworldly truths might be made apparent to us. Is this not a perceptual relationship? Well, no. Perception was not directly implicated in their project. Choosing linguistic items and juxtaposing them following some aesthetic criteria does not involve perception *of the world*, certainly not in the same way as does the scientist's perception of the heavens. Waiting (thereafter) for these ordered names to resonate in some occult way to show "the action in our poor world of the

otherworldly truths" and *perceiving* this action does exalt naming, but this is tolerated. Andreas' version of this qualifies as absolutist, in the sense that of the many *exalted naming* strategies available he stressed that this was "the only one" that worked.[30] Copernicus balks at this, certainly. But I think the feature of Andreas' proposal that really violates Copernicus' principle is that it fails to capture the absoluteness of the gulf between the transcendent and this world.

Copernicus would deny that names show anything of the transcendent, for the transcendent – whatever it *is* that those lights ("shining on") are – is "indifferent to what we call them".[31] Indifferent, in my reading, *means* indifferent: the other world does not register the existence of the names, and there is no chance of it ever responding to their appearance in speech acts. In stressing the indifference of the transcendent – 'the principal thing' (on which he *never* gives up) – Banville shows Copernicus to be remarkably consistent. As a boy, looking out at the linden tree in the garden, the following chunk of reasoning speaks to his lifelong relationship with both perception and language:

> Tree. That was its name. And also: the linden. They were nice words. He had known them for a long time before he knew what they meant. They did not mean themselves, they were nothing in themselves, they meant the dancing singing thing outside. In wind, in silence, at night, in the changing air, it changed and yet was changelessly the tree, the linden tree. That was strange.
>
> Everything had a name, but although every name was nothing without the thing named, the thing cared nothing for its name, had no need of a name, and was itself only.[32]

Language can be prized for its musicality and its numinous qualities. But Copernicus is always deeply suspicious of the causal power which words are assumed by their users to have. He intuits that the thing exists perfectly independently of the name, and *cares* (important word!) nothing for it. For Copernicus things – not names – are subjects and they have a power as mysterious and transcendent as it is obvious. When language does affect him – cause change in him – it does so in a way which always bumps up against the power of these *prior* objects. When other subjects – other voices – contest the intuitions which form him he experiences the tension implicit in their challenge to the obviousness of this transcendent world. By the end of the novel, Copernicus knows these challenges are justified. Equally so, he knows they are wrong. He is offered various exalted naming strategies (instrumentalism, mystical nominalism). On the one hand, they move him to a kind of theoretical quietism: all such strategies are valuable (he sees this). Equally so, he recognizes their absolute triviality. They exist in complete separation from an indifferent, transcendent reality. Copernicus does not valorize language as a mediating resource here. Granted, Banville has him die called away by voices, "sighing in the leaves of the linden".[33] But these are not human voices – or not *only* human voices – but the voices of everything that occupies this terrestrial realm: children at play, churchbells, dogs, the sea, the wind, the earth itself: "All called and called to him, and called, calling him away".[34] If this is language, then it is a language without reference; a convulsive, reiterative invitation without centre, the furthest thing from a hypothesis that you can get; a world dream, if you like, rather than the formulae of a progressive, empirical science.

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1 Chalmers, A. F., (1982), *What is this Thing Called Science?*, Cambridge, Hackett. p. 146.

2 Banville, John, (1993), *Doctor Copernicus*, New York, Vintage, p. 35.

3 Ibid, p. 35.

4 Ibid, p. 230.

5 Ibid, p. 233.

6 Ibid, p. 235.

7 Ibid, p. 236.

8 Ibid, pp. 234–235.

9 Ibid, p. 21.

10 Ibid, p. 186.

11 Ibid, p. 238.

[12] Ibid, p. 238.
[13] Ibid, p. 239.
[14] Ibid, p. 121.
[15] Ibid, p. 128.
[16] Ibid, p. 126.
[17] Ibid, p. 240.
[18] Ibid, p. 240.
[19] Ibid, p. 103.
[20] Ibid, p. 240.
[21] Ibid, p. 207.
[22] Banville, John, (1998), "Beauty, charm, and strangeness: Science as metaphor", Science, 281.5353, pp. 40-41.
[23] Banville, John, (1993), *Doctor Copernicus*, New York, Vintage, p. 93.
[24] Ibid, pp. 203-204.
[25] Ibid, p. 93.
[26] Ibid, p. 238.
[27] Ibid, p. 206.
[28] Ibid, pp. 206-207.
[29] Ibid, p. 233.
[30] Ibid, p. 240.
[31] Ibid, p. 207.
[32] Ibid, p. 3.
[33] Ibid, p. 242.
[34] Ibid, p. 242.